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INVITATION TO SUBMIT A LETTER OF INTENT

CEATI International Inc.

Distribution Asset Life Cycle Management Projects

Dear Technology Supplier,

I would like to take this opportunity to invite you to submit a letter of intent on projects in some of the areas of interest to the CEATI International Inc. (CEATI) Distribution Asset Life Cycle Management Interest Group (DALCM).

This Interest Group was formed, under CEATI co-ordination, by utilities wishing to share in the costs of investigating and developing technologies and in the process of applying such technologies in order to better manage the life cycle of distribution assets.

The following documents provide a detailed description of the scope of interest, as well as a list of projects already undertaken by DALCM or which are under implementation.

Letter(s) of intent explaining the project(s) that you propose to develop (max. 4 pages) should be submitted in Microsoft Word format, using the attached form, by January 26th, 2012. They should be uploaded to the website at http://prs.ceati.com/proposals/, making reference to the project number "DALCM 2012 LOI".

Your submitted letter of intent will be evaluated by the CEATI DALCM participants at their Spring meeting. If your letter of intent is pre-selected, CEATI will request a detailed submission for final evaluation by the group's Fall Meeting. Please be aware that CEATI is not bound to accept any submitted letters of intent.

Regards,

Alex Mogilevsky
Director of Operations
(514) 866-5372
projects@ceati.com

Distribution Assets Life Cycle Management Interest Group

Today's electric utility distribution system was designed and built to yesterday's design standards, and is characterized by an aging infrastructure that is subjected to increased demands for power. Utilities are faced with improving reliability while dealing with the challenges of operating and maintaining an aging distribution system. Simultaneously, customers are demanding higher reliability and power quality. In addition, budgets are constrained requiring utilities to operate their distribution systems much more efficiently. Furthermore, the advent of the Smart Grid will require an increased penetration of automation, new and more complex loads (e.g. PHEV, etc.), distributed energy resources, demand side options and an ever increasing demand for environmentally friendly technologies.

The DALCM Interest Group is focused on addressing these challenges by providing guidance to utilities on managing their distribution assets by making improvements in the area of reliability, safety, environmental sustainability and by preparing for the future distribution system (Smart Grid).

The mission of the Distribution Assets Life Cycle Management Interest Group (DALCM) is to help electric utilities with full life cycle costs of their existing systems and to ensure utilities are prepared to improve their distribution system to meet the challenges of the modern grid. A full life cycle management process includes quantification of customer and shareholder expectations, a business assessment of alternatives and the maintenance and continuous assessment of plant conditions. The program is intended to assist DALCM utilities in minimizing the cost of existing plants over their life, and optimizing equipment/material selection while helping utilities prepare for the future distribution system with smart grid technologies. An in-depth understanding of the problems associated with distribution assets provides utility operations and maintenance personnel with the necessary tools to precisely evaluate the state of the plant and suggest an appropriate course of action.

The result of this mission will be a transfer of knowledge through initiatives such as projects, technology reviews, research, studies, tutorials and workshops with an overall aim to increase the reliability and efficiency of the distribution system and to obtain the maximum life of distribution assets at minimum cost.

DALCM strategic areas of research represent the core motivations of its participants in undertaking new investigative efforts

DALCM's Strategic Areas of Research (Objectives)

- **Improving Reliability of Distribution Equipment & Systems**
  - » Value based reliability
  - » Distribution Automation
  - » Distributed Generation
  - » Automated Load Management
- **Cost Effective Asset Life Cycle Management**
  - » Material Specifications
  - » Installation
  - » Maintenance & Operation
  - » Refurbishment or Upgrade
  - » Replacement & Retirement
- **Improving Safety of the Distribution System**

    - » Public Safety
    - » Utility Worker Safety
    - » Safety by Design
- **Environmental Sustainability**
    - » Waste management
    - » Vegetation management
    - » Aesthetics
    - » Environmental impact of operations
- **Future Distribution System**
    - » Impact of DG on Distribution System
    - » Smart Distribution System
    - » Innovations in Parallel Industries
    - » Impact of Customer Usage Changes

Topic #1: Distribution Transformers	
Completed Projects	
T984700-5001	Guide for Distribution Transformer Refurbishment for Electric Distribution Utilities
T994700-5003	Development of an Internal Fault Detector for Pole-Top Distribution Transformers
T994700-5004	Review of Cyclic Loading Models as Applied to Transformers
T004700-5018	Recycled Oils
T004700-5029	Remaining Life Estimation of Distribution Transformers
T024700-5032	Extended Application of Internal Fault Detector
T044700-5056	Development of a Fault Alert Device for Distribution Transformers
T054700-5064	Continue Development of the Fault Alert
Topic #2: Underground Distribution	
Current Projects	
T104700-5094	Distribution Cable Health Index
Completed Projects	
T994700-5011	Ultrasonic Detection as a Predictive Maintenance Tool for Cable Accessories
T994700-5012	State of the Art on Diagnostic Techniques for Extruded Distribution Cables
T024700-5035	State of the Art with Respect to the Protection of Multiple Primary Source Distribution Secondary Networks
T024700-5039	Distribution Underground Polymeric Cable Systems R&D Business Plan
T044700-5042	Detection and Interruption of Arcing Faults on Distribution Utility Secondary Voltage Conductors
T044700-5043	Detection and Location of Faults on Medium Voltage Underground Distribution Circuits
T044700-5046	State-of-the-Art Study of Detection and Location of Corrosion in Medium Voltage Cable Shields or Neutrals
T044700-5048	Testing of Radio Frequency Detection as a Predictive Distribution Maintenance Tool for Underground Cable Accessories.
T044700-5049	Assessment Criteria Used to Repair, Refurbish or Replace Underground Cables
T044700-5050	Current State of the Art in Cable Design and Technology
T054700-5059	Demonstration of an Advanced Protection Scheme for Secondary Network Systems
T054700-5062	Short-Circuit Cable Rating for CYMCAP
T094700-5054	Cable Accessory Installation Training and Standards
T094700-5059B	Demonstration of an Advanced Protection Scheme for Secondary Network Systems Phase 2
T104700-5091	State-of-the-Art of Handled Partial Discharge Measurement Technologies

Topic #3: Overhead Distribution	
Current Projects	
T114700-5096	Update of the Surge Arrester Application Guide
T114700-6004	Non-Wood Cross-Arms Electrical testing requirements
T124700-6006	Assessment/Test Methodology of In-Service Electrical Connectors for Overhead Lines
T124700-6009	Leakage Current/Touch Potential calculation and Test of covered conductor
T124700-6012	Composite Poles in Transmission & Distribution – Experience and Issues
T124700-6013	Impact of a protective coating against the effect of road authority chemicals on different assets of the distribution network
Completed Projects	
T984700-5002	Evaluation of GE High Impedance Relays
T004700-5019/20	Distribution Systems - New Designs and Aesthetic Integration of Overhead Equipment
T004700-5024	Evaluation of Condition of Anchor Rods Used in Distribution Poles
T014700-5030	Improved Performance of Switched Capacitor Banks
T014700-5031	Condition Assessment of Porcelain Fused Cutouts
T024700-5037	Best Practices in Preventive Inspection and Maintenance of Overhead Distribution Facilities
T024700-5038	Review of Practical Field Condition Assessment Methods for Utility OLH Distribution Class Composite Mechanical Support Products
T044700-5040	Non- Destructive Condition Assessment of ACSR Distribution Conductor
T044700-5041	Comparison of Wood And Non-Wood Materials For Use In Cross-Arms
T044700-5045	Requirements to Formulate a Polymer/Composite Cutout Specification
T044700-5047	An Assessment of the Structural Reliability of Distribution Overhead Lines
T044700-5051	Ultrasonic Assessment of Porcelain Insulated Fused Cutouts
T044700-5058	Distribution Power Line Inspection Training and Standards
T074700-5066	CSA Standards for Polymer Cutouts
T074700-5068	Utility Guide to Forensic Root Cause Analysis of Distribution Failure
T074700-5071	Non-Destructive Condition Assessment of ACSR Distribution Conductors, Phase 2
T084700-5076	State of the art assessment of requirements for attachment of Wi-Fi equipment to utility systems
T084700-5071B	Non-Destructive Condition Assessment of ACSR Distribution Conductors, Phase 3 – Field Testing & Evaluation
T094700-5082	Resiliency of Overhead Lines to Trees and Branches
T104700-5089	Application of Covered Conductors for Medium Voltage Overhead lines

Topic #4: Support Structures	
Completed Projects	
994700-5005	Validation of NDE Tools for Evaluating Present Condition, Residual Strength and Remaining Life of In-service Wood Poles
T994700-5008	Optimization of Wood Pole Maintenance Activities Through Actuarial Analysis Phase I – Milestone Report
T994700-5010	Evaluation of an Environmentally Benign Borate Preservative Treatment to Control and Prevent Internal Decay in Electrical Utility Poles
T994700-5013	Reliability of Steel Distribution Poles
T004700-5016	Evaluation of Refurbishment Options to Optimize Pole Replacement
T024700-5033	Wood Pole Inspection Training and Standards Vol 1: Wood Pole Inspector's Handbook (Manual) Vol 2: Certification and Auditing of Wood Pole Inspectors
T044700-5053	Metal Streetlight Pole Inspection Standards
T054700-5060	Remedial Treatment of Utility Poles Using Borate Rods and In-situ Butt Encapsulation

Topic #5: Improving The Distribution System	
Current Projects	
T084700-5081	Smart Grid Task force
T104700-5090	Nanotechnology Applications with Utility Benefits
T104700-5095	Update of the Distribution Planner's Manual
T114700-5097	Solar Power Variability Impacts On the Distribution System
T114700-5098	An Assessment of Distribution Neutral grounding alternatives
T114700-5099	The Impact of Variable Distributed Renewable Generation on the Distribution Grid
T114700-6001	Firefighting Guidelines near Electrical utility Structures
T114700-6002	Corrosion on the Distribution System: Mitigation Strategies
T114700-6003	Lifecycle Costs of Overhead vs. Underground Installation
T124700-6005	Distribution Line Reliability Improvement Impacts on upstream Equipment Life
T124700-6007	Best Practices for a Risk-Based Approach to Vegetation Management of Distribution Lines
T124700-6008	Detection of Unintentional islanding
T124700-5075C	Worker Protection on De-Energized Distribution Lines, Phase 3
T124700-5085B	Distribution System Phasing using AMI and DSCADA Information, Phase 2
T124700-6010	Data Acquisition and Monitoring of Distribution Lines with High Resolution Satellite Images
T124700-6011	Distribution Roadmap Update

Completed Projects	
T994700-5009	Multi-Criteria Methods for Risk Optimization for Use in Electricity Business
T024700-5034	Determination of the Mechanical Resistance of Soils for Distribution Systems
T024700-5036	Electric Distribution Utility Road Map
T044700-5044	Evaluating Energy Efficiency of Distribution Systems
T044700-5055	Asset Management Practices of Leading Distribution Utilities
T044700-5057	Electric Distribution Utility Roadmap, Phase II - Planning for Now and for 2010 (5057A) - A Common Infrastructure (5057B) - The Case for Change (5057C)
T054700-5061	Deficiency Ranking Method for Distribution System Inspections
T084700-5061B	Development of an application guide and functional improvements to the software developed in 5061
T054700-5063	Implementation Roadmap for Utilities Deploying Broadband over Powerlines
T054700-5065	Application Guide for Overcurrent Protection
T074700-5067	Replacement/ EOL Criteria for Distribution System Assets
T074700-5069	Cost of Reliability Methodologies
T074700-5070	Limits for the Connection of Distributed Generation to the Distribution System
T074700-5072	Roadmap of Anticipated Customer Loads
T084700-5075	Worker protection on de-energized distribution lines
T084700-5077	Effects of demand side management/TOD rates on load and Loss factors

T074700-5073	State-of-the-Art Capacitance Meter Comparison
T074700-5074	State of the Art Portable MEGOHM Meter Comparison
T084700-5078	Web Based Distribution fault Locator
T084700-5079	Arc Flash on a Utility System
T084700-5080	State of the art review of management of technical and non-technical losses in distribution systems
T094700-5083	Evaluation of LED Outdoor lighting applications
T084700-5061C	Tutorial for Analysis Functions of deficiency ranking method
T094700-5079B	Arc Flash on a Utility Underground System
T094700-5084	Probabilistic modelling of the Impact of maintenance Tasks on Reliability
T094700-5085	Distribution System Phasing using AMI and DSCADA information
T094700-5085	Distribution System Phasing using AMI and DSCADA information
T094700-5086	DALCM Asset Failure Data Base
T094700-5087	Distributed Wind Evaluation Methodology
T094700-5088	Condition Data Requirements for Distribution Asset Management
T104700-5092	Determine how satellite technology can be used in the utility industry
T104700-5093	Best Practices for Asset Disposal / Reuse Decision

SUBMISSION OF LETTER OF INTENT

DALCM Interest Group

Date:

Company Name:

Company Address:

Company: Phone:

Fax:

Website:

Principle Investigator(s): Name(s):

Phone(s):

E-mail(s):

Topic Number: No. (1~5) Please see the DALCM main topics listing.

Project Title: This should reference the work.

Introduction: This should include a brief description of the work and the need for research or development.

Objectives and Content: Should describe the work proposed, how it relates to the stated objectives of the Topic and outline the objectives of the research/development/study.

Proposed Deliverables: Outline the deliverables of the project including new or improved tools, techniques, methodologies, equipment, processes etc related to the topics of interest.

Budget: A preliminary estimate of the costs should be provided.

Schedule: A preliminary estimate of the time requirements for the project shall be provided.

1.1 CALL FOR LETTERS OF INTENT

Please submit the form (in WORD format) at:

www.ceati.com/private/submissions

Your proposition must be in the format shown above

CLOSING DATE FOR RECEIPT OF PROPOSALS BY E-MAIL IS: January 26th, 2012